

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-10. (Canceled)

11. (New) An optical measuring apparatus for making measurements of a rotating object, comprising:

a light source which generates a beam of light near a path of the rotating object;

a detector for receiving the beam of light and for producing a signal indicative of an extent of light received by the detector; and a signal processor for processing the signal from the detector and for producing an output;

wherein:

the signal processor processes the signal from the detector and produces the output only after a delay, approximately equal to at least the time taken for one revolution of the object, following the generation of the signal resulting from a predetermined extent of light at the detector, and only if the predetermined extent of light is present at the detector at the end of the delay.

12. (New) A method for making measurements of a rotating object and for producing an output, using an optical measuring apparatus which includes a light source which generates a beam of light and a detector for receiving the beam of light, comprising:

rotating the object;

causing a beam of light to be emitted from the light source;

moving the object relative to the beam;

detecting an extent of the beam of light at the detector;

generating a signal from the detector when a predetermined extent of light is present at the detector;

delaying the output for at least one revolution of the object following the generation of the signal, and;

causing an output to issue from the apparatus only if the predetermined extent of light is present at the detector at the end of the delay.

13. (New) An optical measuring apparatus for making measurements of a rotating object, comprising:

a light source which generates a beam of light near a path of the rotating object;

a detector for receiving the beam of light and producing a signal when a predetermined level of occlusion of the beam of light occurs, and;

a signal processor which processes the signal from the detector and produces an output;

wherein the signal processor processes the signal from the detector and produces an output only after a delay, approximately equal to the time taken for at least one revolution of the object, following the generation of the signal, and only if the signal is present at the end of the delay.

14. (New) A method for making measurements of a rotating object and for producing an output, using an optical measuring apparatus which includes a light source which generates a beam of light and a detector for receiving the beam of light, comprising:

rotating the object;

causing a beam of light to be emitted from the light source;

moving the object relative to the beam;

detecting an extent of the beam of light at the detector;

generating a signal from the detector when a predetermined extent of light is present at the detector;

delaying the output for at least one revolution of the object following the generation of the signal, and;

causing an output to issue from the apparatus only if the signal is present at the detector at the end of the delay.

15. (New) An optical measuring apparatus for making measurements of a rotating object and for producing an output, the apparatus comprising:

a light source which generates a beam of light near a path of the rotating object;

a detector for receiving the beam of light and for producing a signal indicative of the amount of light received by the detector; and a signal processor for processing the signal from the detector;

wherein:

the signal processor starts a clock pulse each time a signal produced by the detector reaches a predetermined extent, the clock pulse having a duration substantially equal to at least one revolution of the object, and produces an output only at the end of the clock pulse duration or durations.

16. (New) Optical measuring apparatus according to claim 15, wherein a first signal the detector starts a first clock pulse, wherein the output is produced only when a second signal from the detector is received at the end of the first clock pulse duration and wherein the signal processor ignores any signal from the detector occurring between the first and second signals.

17. (New) A method for making measurements of a rotating object and for producing an output, using an optical measuring apparatus which includes a light source which generates a beam of light and a detector for receiving the beam of light, comprising:

rotating the object;

causing a beam of light to be emitted from the light source;

moving the object relative to the beam;

detecting an extent of the beam of light at the detector;

generating a signal from the detector when a predetermined extent of light is present at the detector;

causing a clock pulse to start, having a duration substantially equal to at least one revolution of the object, each time a signal from the detector is generated; and delaying the output until the end of the clock pulse.

18. (New) An apparatus for making measurements of a rotating object comprising:
a light source which generates a beam of light near a path of the rotating object;

a detector for receiving the beam of light and producing a signal whenever a predetermined extent of the light at the detector is reached;

a signal processor for monitoring each signal from the detector and for producing an output only if two monitored signals occur having an interval between their respective monitoring substantially equal to the time taken for the object to complete at least one revolution.

19. (New) The apparatus for making measurements of an object according to claim 18, wherein the signal processor includes a memory for recording the occurrence of each signal such that monitoring of the occurrence of the signals can take place.

20. (New) The apparatus for making measurements of an object according to claim 19, wherein the memory comprises a buffer having two halves and an output is produced when two signals occur at the same place in each half of the buffer.

21. (New) A method for making measurements of a rotating object and for producing an output, using an optical measuring apparatus which includes a light source which generates a beam of light and a detector for receiving the beam of light, comprising:

rotating the object;

causing a beam of light to be emitted from the light source;

moving the object relative to the beam;

detecting the extent of the beam of light at the detector;

generating a signal from the detector for triggering the output whenever a predetermined extent of light is present at the detector;

monitoring the occurrence of each signal from the detector, and;

causing an output to issue from the apparatus only if two monitored signals occur having an interval between their respective monitoring substantially equal to the time taken for the object to complete at least one rotation.

22. (New) A method for making measurements of a rotating object comprising:

rotating the object;

causing a beam of light to be illuminated onto a detector;

positioning the beam of light to detect the maximum radius of the rotating object; and

generating a signal from the detector whenever the beam of light on the detector achieves a predetermined intensity.

23. (New) The method according to claim 22, further comprising:

monitoring each signal from the detector and producing an output only if two successive signals occur having an interval between them that is substantially equal to the period of one rotation of the object.